

REMARKS

Entry of the foregoing, reexamination and further and favorable reconsideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested.

The Office Action Summary correctly indicates that claims 1-34 are pending in the application. Claims 1-34 are subject to a restriction requirement. Claims 14-34 are withdrawn from consideration. Claims 1-13 are under consideration and stand rejected.

By the present amendment, claim 10 has been amended to clarify the antecedent basis of the word "perforations" and to delete parenthetical subject matter which is now recited in new claim 35. Support for the amendments to claim 10 can be found throughout the specification, for example in the claims as originally filed. Claim 35 has been added to recite subject matter deleted from claim 10. Support for claim 35 can be found throughout the specification, for example in claim 10 as originally filed.

No new matter has been introduced by way of the above amendments. Applicants reserve the right to file a continuation or divisional application on any subject matter that might have been canceled by way of this Amendment.

Objection

Claim 6 has been objected to as allegedly lacking antecedent basis for the recitation "the perforations" in line 2 thereof. Claim 6 does not contain a recitation of "the perforations." However, claim 10 does contain such a recitation. Applicants respectfully

submit that claim 10 as originally filed is not indefinite, because one of skill in the art would clearly understand, as the Examiner evidences, that the recited "perforations" refer to perforations of the perforated membrane. Thus, without acceding to the reason for the objection, but simply in order to expedite prosecution of this application, claim 10 has been amended to recite "the perforated membrane has perforations." Withdrawal of the objection to claim 6 is respectfully requested.

Rejection under 35 U.S.C. § 102(b)

Claims 1-3, 5-8 and 10 have been indicated as rejected under 35 U.S.C. § 102 as allegedly anticipated by published PCT application WO 91/04785. It is not clear exactly which claims are rejected, because numbered paragraphs 4 and 5 of the Office Action are conflicting. Applicants note with appreciation that in numbered paragraph 5 of the Office Action claims 4, 6-7, 9 and 11-13 have been indicated as allowable if rewritten in independent form. Thus, the rejection appears to apply to claims 1-3, 5, 8 and 10. The alleged reasons for the rejection are set forth in numbered paragraph 4 of the Office Action. The rejection is respectfully traversed.

Anticipation under § 102 requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim. *See, e.g., Carella v. Starlight Archery*, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986); *Lewmar Marine Inc. v. Barient, Inc.*, 3 U.S.P.Q.2d 1766, 1767 (Fed. Cir. 1987); *see also*, M.P.E.P. § 2131. However, the

WO 91/04785 published application does not disclose, nor even suggest, all the elements of the presently claimed sensor and/or separating element arranged as in the present claims.

Claim 1 recites a "sensor- and/or separating element for the semi-permeable diffusion of molecules comprising:

- a) a mechanically stable substrate having at least one through-opening,
- b) a perforated membrane which is fluid-tightly connected to the substrate and extends at least across the through-opening; and
- c) at least one semi-permeable layer which is applied in firmly adhering manner to one or both sides of the membrane at least in the perforated region thereof, wherein the semi-permeable layer or semi-permeable layers is/are secured mechanically in the adjacent perforations and/or by chemical-structural and/or physical adhesion and/or adhesive intermediate layers and/or covalent surface bonding to the adjacent surfaces of the membrane, optionally of the substrate, or of a metallic film optionally additionally applied to one or both sides of the membrane."

Claims 2-3, 5-8 and 10 depend, directly or indirectly, on claim 1.

Contrary to the invention described by claim 1 and the claims depending from claim 1, WO 91/04785 relates to a porous membrane suitable for separation devices in order to separate constituent elements of a mixture of material of different particle or molecule size (see page 1, first paragraph of this document). The method of manufacture disclosed in the reference reveals the structure of the disclosed membrane. In order to manufacture this

membrane, a porous anodic film 10 is grown on a substrate 11, which is generally made of aluminum or an anodizable aluminum alloy, by a porous anodization technique (see page 5, first and second paragraphs of the reference). Then, a supporting layer 20 is attached to the outer surface of the anodic film 10, the supporting layer 20 preferably having perforations 21 being quite large compared to the width of the pores 12 in the anodic film. The perforations may range in size from 0.1 micron to 500 microns (see page 6, third and fourth paragraphs). As the support layer 20, a polymer layer may be used, the polymer layer being adhered or heat sealed to the anodic film 10 (see page 9, lines 8-10).

The anodic film 10 comprises branched pore regions 15 (see Figure 2) which introduce a weakened stratum into the anodic film 10 so that the film can be separated fairly easily along this stratum. In other words, after the supporting layer 20 has been attached to the outer surface of the anodic film 10, the anodic film 10 is detached from the metal substrate 11 along the stratum of weakness defined by the branched pore regions 15, e.g. by peeling away the substrate 11 from the supporting layer 20 and the adhering membrane 10 (see page 2, last paragraph - page 3, first paragraph in combination with page 5, line 14 - page 7, line 14).

When comparing the subject matter of present claim 1 with the disclosure of document WO 91/04785 as described above, it can be seen that the claimed invention clearly differs from WO 91/04785 in at least the following features:

- a) As described above, the substrate 11 of WO 91/04785 is disclosed as being detached from the porous anodic film 10 during the manufacturing process. This means

that the substrate 11 does not form part of or remain attached to the membrane. By contrast, claim 1 clearly sets forth the claimed element comprising a mechanically stable substrate.

- b) Moreover, the substrate 11 disclosed in WO 91/04785 does not have a through-opening. Consequently, it does not correspond to feature a) of present independent claim 1 for this reason as well.
- c) The supporting layer 20 disclosed in WO 91/04785 cannot be compared to the semi-permeable layer defined by feature c) of the present claim 1. Reference WO 91/04785 clearly discloses that the supporting layer 20 may be perforated but need not be (see page 6, lines 13-14 of this reference). The supporting layer 20 of WO 91/04785 has the function of supporting the porous anodic film 10 so as to allow to detach the substrate 11. Even in the case that the supporting layer of WO 91/04785 is perforated, it is not disclosed as being semi-permeable as recited in feature c) of claim 1, as that term is understood in the art and used in the specification.
- d) Further, the supporting layer 20 of WO 91/04785 cannot be compared to the perforated membrane of feature b) of present claim 1 because it is not disclosed as fluid-tightly connected to a mechanically stable substrate, extending at least across the through-opening thereof. The supporting layer 20 of WO 91/04785 cannot be compared to the substrate recited in a) of present claim 1, because the reference does not teach or suggest be fluid-tightly connecting the supporting layer to a perforated membrane as recited in b) of claim 1, particularly where such a perforated membrane has a semi-permeable layer

applied in firmly adhering manner to one or both sides thereof as described in feature c) of claim 1. Thus, the supporting layer 20 of WO 91/04785 does not correspond to any part of the element described by present claim 1.

e) With regard to dependant claim 6, document WO 91/04785 only discloses the substrate 11 being made from metal. By contrast, the substrate of claim 6 is made from a material chosen from the group consisting of silicon, silicon compounds and other semiconductor materials.

In view of the foregoing, it is clear that the cited reference does not teach or even suggest all the elements of the claimed invention, arranged as in the claims, and thus fails to anticipate the claimed invention. *See, e.g., Carella v. Starlight Archery*, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986); *Lewmar Marine Inc. v. Barient, Inc.*, 3 U.S.P.Q.2d 1766, 1767 (Fed. Cir. 1987); *see also*, M.P.E.P. § 2131.

Accordingly, withdrawal of the rejection of claims 1-3, 5-8 and 10 under 35 U.S.C. § 102 as allegedly anticipated by published PCT application WO 91/04785 is respectfully requested.

CONCLUSION

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited.

In the event that there are any questions relating to this application, it would be appreciated if the Examiner would telephone the undersigned concerning such questions so that prosecution of this application may be expedited.

Respectfully submitted,

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